

APPENDIX B TO § 172.101 List of Marine
Pollutants—Continued

S.M.P.	Marine Pollutant
(1)	(2)
.....	Sym-Dichloroethyl ether
.....	Tallow nitrile.
.....	Temephos
.....	TEPP
PP	Terbufos
.....	Tetrabromoethane.
.....	Tetrabromomethane
.....	Tetrachloroethane
.....	Tetrachloroethylene.
.....	Tetrachloromethane
.....	Tetrachlorophenol
PP	Tetrachlorvinphos
.....	Tetraethyl dithiopyrophosphate
PP	Tetraethyl lead, liquid
.....	Tetramethrin
.....	Tetramethylbenzenes
.....	Tetramethyllead
.....	Thallium chlorate
.....	Thallium compounds, n.o.s.
.....	Thallium compounds (pesticides)
.....	Thallium nitrate
.....	Thallium sulfate
.....	Thalious chlorate
.....	4-Thiapentanal.
.....	Thiocarbonyl tetrachloride
.....	Triaryl phosphates, isopropylated
PP	Triaryl phosphates, n.o.s.
.....	Triazophos
.....	Tribromomethane
PP	Tributyltin compounds
.....	Trichlorfon
.....	Trichlorobenzenes, liquid
.....	Trichlorobutene
.....	Trichlorobutylene
.....	Trichloromethane sulphuryl chloride
.....	Trichloromethyl sulphochloride
.....	Trichloronat
.....	Tricresyl phosphate (less than 1% ortho-isomer)
PP	Tricresyl phosphate (not less than 1% ortho-isomer)
PP	Tricresyl phosphate with more than 3 per cent ortho isomer
.....	Triethylbenzene
.....	Triisopropylated phenyl phosphates
.....	1,2,3-Trimethylbenzene
.....	1,2,4-Trimethylbenzene
.....	1,3,5-Trimethylbenzene
.....	Trimethylene dichloride
.....	Triphenylphosphate.
PP	Triphenyltin compounds
.....	Tritolyl phosphate (less than 1% ortho-isomer)
PP	Tritolyl phosphate (not less than 1% ortho-isomer)
.....	Trixylenyl phosphate
.....	Turpentine
.....	1-Undecanol.
.....	<i>normal</i> -Valeraldehyde.
.....	Vinylbenzene, inhibited
.....	Vinylidene chloride, inhibited
.....	Vinyltoluenes, inhibited <i>mixed isomers</i>
.....	Warfarin (and salts of)
PP	White phosphorus, dry
PP	White phosphorus, molten
PP	White phosphorus, wet
.....	White spirit, low (15-20%) aromatic
.....	Xylenols
PP	Yellow phosphorus, dry
PP	Yellow phosphorus, molten

APPENDIX B TO § 172.101 List of Marine
Pollutants—Continued

S.M.P.	Marine Pollutant
(1)	(2)
PP	Yellow phosphorus, wet
.....	Zinc bromide
.....	Zinc cyanide

[Amdt. 172-127, 57 FR 52935, Nov. 5, 1992]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting Appendix B to § 172.102, see the List of CFR Sections Affected in the Finding Aids section of this volume.

§ 172.102 Special provisions.

(a) *General.* When Column 7 of the § 172.101 Table refers to a special provision for a hazardous material, the meaning and requirements of that provision are as set forth in this section. When a special provision specifies packaging or packaging requirements—

(1) The special provision is in addition to the standard requirements for all packagings prescribed in § 173.24 of this subchapter and any other applicable packaging requirements in subparts A and B of part 173 of this subchapter; and

(2) To the extent a special provision imposes limitations or additional requirements on the packaging provisions set forth in Column 8 of the § 172.101 Table, packagings must conform to the requirements of the special provision.

(b) *Description of codes for special provisions.* Special provisions contain packaging provisions, prohibitions, exceptions from requirements for particular quantities or forms of materials and requirements or prohibitions applicable to specific modes of transportation, as follows:

(1) A code consisting only of numbers (for example, “11”) is multi-modal in application and may apply to bulk and non-bulk packagings.

(2) A code containing the letter “A” refers to a special provision which applies only to transportation by aircraft.

(3) A code containing the letter “B” refers to a special provision which applies only to bulk packaging requirements. Unless otherwise provided in

this subchapter, these special provisions do not apply to IM portable tanks.

(4) A code containing the letter “H” refers to a special provision which applies only to transportation by highway.

(5) A code containing the letter “N” refers to a special provision which applies only to non-bulk packaging requirements.

(6) A code containing the letter “R” refers to a special provision which applies only to transportation by rail.

(7) A code containing the letter “T” refers to a special provision which applies only to transportation in IM portable tanks.

(8) A code containing the letter “W” refers to a special provision which applies only to transportation by water.

(c) *Tables of special provisions.* The following tables list, and set forth the requirements of, the special provisions referred to in Column 7 of the § 172.101 Table.

(1) *Numeric provisions.* These provisions are multi-modal and apply to bulk and non-bulk packagings:

Code/Special Provisions

- 1 This material is poisonous by inhalation (see § 171.8 of this subchapter) in Hazard Zone A (see § 173.116(a) or § 173.133(a) of this subchapter), and must be described as an inhalation hazard under the provisions of this subchapter.
- 2 This material is poisonous by inhalation (see § 171.8 of this subchapter) in Hazard Zone B (see § 173.116(a) or § 173.133(a) of this subchapter), and must be described as an inhalation hazard under the provisions of this subchapter.
- 3 This material is poisonous by inhalation (see § 171.8 of this subchapter) in Hazard Zone C (see § 173.116(a) of this subchapter), and must be described as an inhalation hazard under the provisions of this subchapter.
- 4 This material is poisonous by inhalation (see § 171.8 of this subchapter) in Hazard Zone D (see § 173.116(a) of this subchapter), and must be described as an inhalation hazard under the provisions of this subchapter.
- 5 If this material meets the definition for a material poisonous by inhalation (see § 171.8 of this subchapter), a shipping name must be selected which identifies the inhalation hazard, in Division 2.3 or Division 6.1, as appropriate.
- 6 This material is poisonous-by-inhalation and must be described as an inhalation

hazard under the provisions of this subchapter.

- 7 An ammonium nitrate fertilizer is a fertilizer formulation, containing 90% or more ammonium nitrate and no more than 0.2% organic combustible material (calculated as carbon), which does not meet the definition and criteria of a Class 1 (explosive) material (See § 173.50 of this subchapter).
- 8 A hazardous substance that is not a hazardous waste may be shipped under the shipping description “Other regulated substances, liquid or solid, n.o.s.”, as appropriate. In addition, for solid materials, special provision B54 applies.
- 9 Packaging for certain PCBs for disposal and storage is prescribed by EPA in 40 CFR 761.60 and 761.65.
- 10 An ammonium nitrate mixed fertilizer is a fertilizer formulation, containing less than 90% ammonium nitrate and other ingredients, which does not meet the definition and criteria of a Class 1 (explosive) material (See § 173.50 of this subchapter).
- 11 The hazardous material must be packaged as either a liquid or a solid, as appropriate, depending on its physical form at 55 °C (131 °F) at atmospheric pressure.
- 12 In concentrations greater than 40 percent, this material has strong oxidizing properties and is capable of starting fires in contact with combustible materials. If appropriate, a package containing this material must conform to the additional labeling requirements of § 172.402 of this subchapter.
- 13 The words “Inhalation Hazard” shall be entered on each shipping paper in association with the shipping description, shall be marked on each non-bulk package in association with the proper shipping name and identification number, and shall be marked on two opposing sides of each bulk package. Size of marking on bulk package must conform to § 172.302(b) of this subchapter. The requirements of §§ 172.203(m) and 172.505 of this subchapter do not apply.
- 14 Motor fuel antiknock mixtures are:
 - a. Mixtures of one or more organic lead mixtures (such as tetraethyl lead, triethylmethyl lead, diethyldimethyl lead, ethyltrimethyl lead, and tetramethyl lead) with one or more halogen compounds (such as ethylene dibromide and ethylene dichloride), hydrocarbon solvents or other equally efficient stabilizers; or
 - b. tetraethyl lead.
- 15 Chemical kits and first aid kits are boxes, cases, etc., containing small amounts of various compatible dangerous goods which are used for medical, analytical, or testing purposes and for which exceptions are provided in this subchapter.

For transportation by aircraft, any hazardous materials forbidden in passenger aircraft may not be included in these kits. Inner packagings may not exceed 250 mL for liquids or 250 g for solids and must be protected from other materials in the kit. The total quantity of hazardous materials in any one kit may not exceed either 1 L or 1 kg. The packing group assigned to the kit as a whole must be the most stringent packing group assigned to any individual substance contained in the kit. Kits must be packed in wooden boxes (4C1, 4C2), plywood boxes (4D), reconstituted wood boxes (4F), fiberboard boxes (4G) or plastic boxes (4H1, 4H2); these packagings must meet the requirements appropriate to the packing group assigned to the kit as a whole. The total quantity of hazardous materials in any one package may not exceed either 10 L or 10 kg. Kits which are carried on board transport vehicles for first-aid or operating purposes are not subject to the requirements of this subchapter.

- 16 This description applies to smokeless powder and other solid propellants that are used as powder for small arms and have been classed as Division 1.3 and 4.1 in accordance with § 173.56 of this subchapter.
- 17 Aqueous solutions of hydrogen peroxide containing less than 8 percent hydrogen peroxide are not subject to the requirements of this subchapter.
- 18 This description is authorized only for fire extinguishers listed in § 173.309(b) of this subchapter meeting the following conditions:
 - a. Each fire extinguisher may only have extinguishing contents that are nonflammable, non-poisonous, non-corrosive and commercially free from corroding components.
 - b. Each fire extinguisher must be charged with a nonflammable, non-poisonous, dry gas that has a dew-point at or below minus 46.7 °C (minus 52 °F) at 101kPa (1 atmosphere) and is free of corroding components, to not more than the service pressure of the cylinder.
 - c. A fire extinguisher may not contain more than 30% carbon dioxide by volume or any other corrosive extinguishing agent.
 - d. Each fire extinguisher must be protected externally by suitable corrosion-resisting coating.
- 19 For domestic transportation only, the identification number "UN1075" may be used in place of the identification number specified in Column (4) of the § 172.101 Table. The identification number used must be consistent on package markings, shipping papers and emergency response information.
- 20 The transport of this substance, when in concentrations of greater than 10% nitroglycerin, is prohibited. Concentrations of below 5% nitroglycerin may be transported

as a Class 3 material; see UN 1204 and UN 3064.

- 21 This material must be stabilized by appropriate means (e.g., addition of chemical inhibitor, purging to remove oxygen) to prevent dangerous polymerization (see § 173.21(f) of this subchapter).
- 22 If the hazardous material is in dispersion in organic liquid, the organic liquid must have a flash point above 50 °C (122 °F).
- 23 This material may be transported under the provisions of Division 4.1 only if it is so packed that the percentage of diluent will not fall below that stated in the shipping description at any time during transport. Quantities of not more than 500 g per package with not less than 10 percent water by mass may also be classed in Division 4.1, provided a negative test result is obtained when tested in accordance with test series 6(c) of the UN Manual of Tests and Criteria.
- 24 Alcoholic beverages containing more than 70 percent alcohol by volume must be transported as materials in Packing Group II. Alcoholic beverages containing more than 24 percent but not more than 70 percent alcohol by volume must be transported as materials in Packing Group III.
- 25 Until October 1, 1997, this material may be transported or offered for transportation in a packaging authorized under the regulations in effect on September 30, 1996.
- 26 This entry does not include ammonium permanganate, the transport of which is prohibited except when approved by the Associate Administrator for Hazardous Materials Safety.
- 27 Sodium carbonate peroxyhydrate is considered non-hazardous.
- 28 The dihydrated sodium salt of dichloroisocyanuric acid is not subject to the requirements of this subchapter.
- 29 Lithium cells and batteries and equipment containing or packed with lithium cells and batteries which do not comply with the provisions of § 173.185 of this subchapter may be transported only if they are approved by the Associate Administrator for Hazardous Materials Safety.
- 30 Sulfur is not subject to the requirements of this subchapter if transported in a non-bulk packaging or if formed to a specific shape (e.g., prills, granules, pellets, pastilles, or flakes).
- 31 Materials which have undergone sufficient heat treatment to render them non-hazardous are not subject to the requirements of this subchapter.
- 32 Polymeric beads and molding compounds may be made from polystyrene, poly(methyl methacrylate) or other polymeric material.
- 33 Ammonium nitrites and mixtures of an inorganic nitrite with an ammonium salt are prohibited.

- 34 The commercial grade of calcium nitrate fertilizer, when consisting mainly of a double salt (calcium nitrate and ammonium nitrate) containing not more than 10 percent ammonium nitrate and at least 12 percent water of crystallization, is not subject to the requirements of this subchapter.
- 35 Antimony sulphides and oxides which do not contain more than 0.5 percent of arsenic calculated on the total mass do not meet the definition of Division 6.1.
- 36 The maximum net quantity per package is 5 liters (1 gallon) or 5 kg (11 pounds).
- 37 Unless it can be demonstrated by testing that the sensitivity of the substance in its frozen state is no greater than in its liquid state, the substance must remain liquid during normal transport conditions. It must not freeze at temperatures above -15°C (5°F).
- 38 If this material shows a violent effect in laboratory tests involving heating under confinement, the labeling requirements of Special Provision 53 apply, and the material must be packaged in accordance with packing method OP6 in § 173.225 of this subchapter. If the SADT of the technically pure substance is higher than 75°C , the technically pure substance and formulations derived from it are not self-reactive materials and, if not meeting any other hazard class, are not subject to the requirements of this subchapter.
- 39 This substance may be carried under provisions other than those of Class 1 only if it is so packed that the percentage of water will not fall below that stated at any time during transport. When phlegmatized with water and inorganic inert material, the content of urea nitrate must not exceed 75 percent by mass and the mixture should not be capable of being detonated by test 1(a)(i) or test 1(a)(ii) in the UN Recommendations Tests and Criteria.
- 40 Polyester resin kits consist of two components: a base material (Class 3, Packing Group II or III) and an activator (organic peroxide), each separately packed in an inner packaging. The organic peroxide must be type D, E, or F, not requiring temperature control, and be limited to a quantity of 125 ml (4.22 ounces) per inner packaging if liquid, and 500 g (1 pound) if solid. The components may be placed in the same outer packaging provided they will not interact dangerously in the event of leakage. Packing group will be II or III, according to the criteria for Class 3, applied to the base material.
- 43 The nitrogen content of the nitrocellulose must not exceed 11.5 percent. Each single filter sheet must be packed between sheets of glazed paper. The portion of glazed paper between the filter sheets must not be less than 65 percent, by mass. The membrane filters/paper arrangement must not be liable to propagate a detonation as tested by one of the tests described in the UN Recommendations, Tests and Criteria, Part I, Test series 1 (a). Packagings should be so constructed that explosion is not possible by reason of increased internal pressure.
- 44 The formulation must be prepared so that it remains homogeneous and does not separate during transport. Formulations with low nitrocellulose contents and neither showing dangerous properties when tested for their ability to detonate, deflagrate or explode when heated under defined confinement by the appropriate test methods and criteria in the UN Recommendations, Tests and Criteria, nor being a flammable solid when tested in accordance with Appendix E to Part 173 of this subchapter (chips, if necessary, crushed and sieved to a particle size of less than 1.25 mm) are not subject to this subchapter.
- 45 Temperature should be maintained between 18°C (64.4°F) and 40°C (104°F). Tanks containing solidified methacrylic acid must not be reheated during transport.
- 46 This material must be packed in accordance with packing method OP6 (see § 173.225 of this subchapter). During transport, it must be protected from direct sunshine and stored (or kept) in a cool and well-ventilated place, away from all sources of heat.
- 47 Mixtures of solids which are not subject to this subchapter and flammable liquids may be transported under this entry without first applying the classification criteria of Division 4.1, provided there is no free liquid visible at the time the material is loaded or at the time the packaging or transport unit is closed. Each packaging must correspond to a design type that has passed a leakproofness test at the Packing Group II level. Small inner packagings consisting of sealed packets containing less than 10 ml of a Class 3 liquid in Packing Group II or III absorbed onto a solid material are not subject to this subchapter provided there is no free liquid in the packet.
- 48 Mixtures of solids which are not subject to this subchapter and toxic liquids may be transported under this entry without first applying the classification criteria of Division 6.1, provided there is no free liquid visible at the time the material is loaded or at the time the packaging or transport unit is closed. Each packaging must correspond to a design type that has passed a leakproofness test at the Packing Group II level. This entry may not be used for solids containing a Packing Group I liquid.
- 49 Mixtures of solids which are not subject to this subchapter and corrosive liquids may be transported under this entry without first applying the classification criteria of Class 8, provided there is no free

- liquid visible at the time the material is loaded or at the time the packaging or transport unit is closed. Each packaging must correspond to a design type that has passed a leakproofness test at the Packing Group II level.
- 50 Cases, cartridge, empty with primer which are made of metallic or plastic casings and meeting the classification criteria of Division 1.4 are not regulated for domestic transportation.
- 51 This description applies to items previously described as "Toy propellant devices, Class C" and includes reloadable kits. Model rocket motors containing 30 grams or less propellant are classed as Division 1.4S and items containing more than 30 grams of propellant but not more than 62.5 grams of propellant are classed as Division 1.4C.
- 52 Ammonium nitrate fertilizers may not meet the definition and criteria of Class 1 (explosive) material (see § 173.50 of this subchapter).
- 53 Packages of these materials must bear the subsidiary risk label, "EXPLOSIVE", unless otherwise provided in this subchapter or through an approval issued by the Associate Administrator for Hazardous Materials Safety, or the competent authority of the country of origin. A copy of the approval shall accompany the shipping papers.
- 54 Maneb or maneb preparations not meeting the definition of Division 4.3 or any other hazard class are not subject to the requirements of this subchapter when transported by motor vehicle, rail car, or aircraft.
- 55 This device must be approved in accordance with § 173.56 of this subchapter by the Associate Administrator for Hazardous Materials Safety.
- 56 A means to interrupt and prevent detonation of the detonator from initiating the detonating cord must be installed between each electric detonator and the detonating cord ends of the jet perforating guns before the charged jet perforating guns are offered for transportation.
- 57 Maneb or Maneb preparations stabilized against self-heating need not be classified in Division 4.2 when it can be demonstrated by testing that a volume of 1 m³ of substance does not self-ignite and that the temperature at the center of the sample does not exceed 200 °C, when the sample is maintained at a temperature of not less than 75 °C # 2 °C for a period of 24 hours, in accordance with procedures set forth for testing self-heating materials in the UN Manual of Tests and Criteria.
- 58 Aqueous solutions of Division 5.1 inorganic solid nitrate substances are considered as not meeting the criteria of Division 5.1 if the concentration of the substances in solution at the minimum temperature encountered in transport is not greater than 80% of the saturation limit.
- 59 Ferrocium, stabilized against corrosion, with a minimum iron content of 10 percent is not subject to the requirements of this subchapter.
- 60 After September 30, 1997, an oxygen generator, chemical, that is shipped with its means of initiation attached must incorporate at least two positive means of preventing unintentional actuation of the generator, and be classed and approved by the Associate Administrator for Hazardous Materials Safety. The procedures for approval of a chemical oxygen generator that contains an explosive means of initiation (e.g., a primer or electric match) are specified in § 173.56 of this subchapter. Each person who offers a chemical oxygen generator for transportation after September 30, 1997, shall: (1) ensure that it is offered in conformance with the conditions of the approval; (2) maintain a copy of the approval at each facility where the chemical oxygen generator is packaged; and (3) mark the approval number on the outside of the package.
- 64 The group of alkali metals includes lithium, sodium, potassium, rubidium, and caesium.
- 65 The group of alkaline earth metals includes magnesium, calcium, strontium, and barium.
- 66 Formulations of these substances containing not less than 30 percent non-volatile, non-flammable phlegmatizer are not subject to this subchapter.
- 70 Black powder that has been classed in accordance with the requirements of § 173.56 of this subchapter may be reclassified and offered for domestic transportation as a Division 4.1 material if it is offered for transportation and transported in accordance with the limitations and packaging requirements of § 173.170 of this subchapter.
- 74 During transport, this material must be protected from direct sunshine and stored or kept in a cool and well-ventilated place, away from all sources of heat.
- 77 For domestic transportation, a Division 5.1 subsidiary risk label is required only if a carbon dioxide and oxygen mixture contains more than 23.5% oxygen.
- 81 Polychlorinated biphenyl items, as defined in 40 CFR 761.3, for which specification packagings are impractical, may be packaged in non-specification packagings meeting the general packaging requirements of subparts A and B of part 173 of this subchapter. Alternatively, the item itself may be used as a packaging if it meets the general packaging requirements of subparts A and B of part 173 of this subchapter.
- 101 The name of the particular substance or article must be specified.

- 102 The ends of the detonating cord must be tied fast so that the explosive cannot escape. The articles may be transported as in Division 1.4 Compatibility Group D (1.4D) if all of the conditions specified in § 173.63(a) of this subchapter are met.
- 103 Detonators which will not mass detonate and undergo only limited propagation in the shipping package may be assigned to 1.4B classification code. Mass detonate means that more than 90 percent of the devices tested in a package explode practically simultaneously. Limited propagation means that if one detonator near the center of a shipping package is exploded, the aggregate weight of explosives, excluding ignition and delay charges, in this and all additional detonators in the outside packaging that explode may not exceed 25 grams.
- 104 Detonators which meet the following conditions may be assigned to 1.4S classification code: Each detonator may contain no more than 1 g of explosive, excluding ignition and delay charges, and if one detonator near the center of a package detonates it will not cause functioning of any other device in the same or adjacent packages.
- 105 The word “Agents” may be used instead of “Explosives” when approved by the Associate Administrator for Hazardous Materials Safety.
- 106 The recognized name of the particular explosive may be specified in addition to the type.
- 107 The classification of the substance is expected to vary especially with the particle size and packaging but the border lines have not been experimentally determined; appropriate classifications should be verified following the test procedures in §§ 173.57 and 173.58 of this subchapter.
- 108 Fireworks must be so constructed and packaged that loose pyrotechnic composition will not be present in packages during transportation.
- 109 Rocket motors must be nonpropulsive in transportation unless approved in accordance with § 173.56 of this subchapter. A rocket motor to be considered “nonpropulsive” must be capable of unrestrained burning and must not appreciably move in any direction when ignited by any means.
- 110 Cartridges containing 3.2 grams or less of deflagrating (propellant) explosives installed in a fire extinguisher are not subject to the requirements of this subchapter.
- 111 Explosive substances of Division 1.1 Compatibility Group A (1.1A) are forbidden for transportation if dry or not desensitized, unless incorporated in a device.
- 113 The sample must be given a tentative approval by an agency or laboratory in accordance with § 173.56 of this subchapter.
- 114 Jet perforating guns, charged, oil well, without detonator may be reclassified to Division 1.4 Compatibility Group D (1.4D) if the following conditions are met:
- a. The total weight of the explosive contents of the shaped charges assembled in the guns does not exceed 90.5 kg (200 pounds) per vehicle; and
 - b. The guns are packaged in accordance with Packing Method US006 as specified in § 173.62 of this subchapter.
- 115 Boosters with detonator, detonator assemblies and boosters with detonators in which the total explosive charge per unit does not exceed 25 g, and which will not mass detonate and undergo only limited propagation in the shipping package may be assigned to 1.4B classification code. Mass detonate means more than 90 percent of the devices tested in a package explode practically simultaneously. Limited propagation means that if one booster near the center of the package is exploded, the aggregate weight of explosives, excluding ignition and delay charges, in this and all additional boosters in the outside packaging that explode may not exceed 25 g.
- 116 Fuzes, detonating may be classed in Division 1.4 if the fuzes do not contain more than 25 g of explosive per fuze and are made and packaged so that they will not cause functioning of other fuzes, explosives or other explosive devices if one of the fuzes detonates in a shipping packaging or in adjacent packages.
- 117 If shipment of the explosive substance is to take place at a time that freezing weather is anticipated, the water contained in the explosive substance must be mixed with denatured alcohol so that freezing will not occur.
- 118 This substance may not be transported under the provisions of Division 4.1 unless specifically authorized by the Associate Administrator for Hazardous Materials Safety.
- 119 This substance, when in quantities of not more than 11.5 kg (25.3 pounds), with not less than 10 percent water, by mass, also may be classed in Division 4.1, provided a negative test result is obtained when tested in accordance with test series 6(c) of the UN Manual of Tests and Criteria.
- 120 The phlegmatized substance must be significantly less sensitive than dry PETN.
- 121 This substance, when containing less alcohol, water or phlegmatizer than specified, may not be transported unless approved by the Associate Administrator for Hazardous Materials Safety.
- 123 Any explosives, blasting, type C containing chlorates must be segregated from explosives containing ammonium nitrate or other ammonium salts.
- 125 Lactose or glucose or similar materials may be used as a phlegmatizer provided

that the substance contains not less than 90%, by mass, of phlegmatizer. These mixtures may be classified in Division 4.1 when tested in accordance with test series 6(c) of the UN Manual of Tests and Criteria and approved by the Associate Administrator for Hazardous Materials Safety. Testing must be conducted on at least three packages as prepared for transport. Mixtures containing at least 90%, by mass, of phlegmatizer are not subject to the requirements of this subchapter. Packages containing mixtures with not less than 98% by mass, of phlegmatizer need not bear a POISON subsidiary risk label.

127 Mixtures containing oxidizing and organic materials transported under this entry may not meet the definition and criteria of a Class 1 material. (See § 173.50 of this subchapter.)

128 Notwithstanding the provisions of § 172.101(c)(12), an aluminum smelting by-product or aluminum remelting by-product described under this entry, in Packing Group II or III, may be packaged in accordance with Special Provision B115 of this section.

(2) “A” codes. These provisions apply only to transportation by aircraft:

Code/Special Provisions

- A1 Single packagings are not permitted on passenger aircraft.
- A2 Single packagings are not permitted on aircraft.
- A3 For combination packagings, if glass inner packagings (including ampoules) are used, they must be packed with absorbent material in tightly closed metal receptacles before packing in outer packagings.
- A4 Liquids having an inhalation toxicity of Packing Group I are not permitted on aircraft.
- A5 Solids having an inhalation toxicity of Packing Group I are not permitted on passenger aircraft and may not exceed a maximum net quantity per package of 15 kg (33 pounds) on cargo aircraft.
- A6 For combination packagings, if plastic inner packagings are used, they must be packed in tightly closed metal receptacles before packing in outer packagings.
- A7 Steel packagings must be corrosion-resistant or have protection against corrosion.
- A8 For combination packagings, if glass inner packagings (including ampoules) are used, they must be packed with cushioning material in tightly closed metal receptacles before packing in outer packagings.
- A9 For combination packagings, if plastic bags are used, they must be packed in tightly closed metal receptacles before packing in outer packagings.

A10 When aluminum or aluminum alloy construction materials are used, they must be resistant to corrosion.

A11 For combination packagings, when metal inner packagings are permitted, only specification cylinders constructed of metals which are compatible with the hazardous material may be used.

A13 Non-bulk packagings conforming to § 173.197 of this subchapter not exceeding 16 kilograms (35 pounds) gross mass containing only used sharps are permitted for transportation by aircraft. Maximum liquid content in each inner packaging may not exceed 50 milliliters (1.7 ounces).

A14 Non-bulk packagings of regulated medical waste conforming to § 173.197 of this subchapter not exceeding 16 kilograms (35 pounds) gross mass for solid waste or 12 liters (3 gallons) total volume for liquid waste may be transported by passenger and cargo aircraft when means of transportation other than air are impracticable or not available.

A19 Combination packagings consisting of outer fiber drums or plywood drums, with inner plastic packagings, are not authorized for transportation by aircraft.

A20 Plastic bags as inner receptacles of combination packagings are not authorized for transportation by aircraft.

A29 Combination packagings consisting of outer expanded plastic boxes with inner plastic bags are not authorized for transportation by aircraft.

A30 Ammonium permanganate is not authorized for transportation on aircraft.

A34 Aerosols containing a corrosive liquid in Packing Group II charged with a gas are not permitted for transportation by aircraft.

A51 When transported by cargo-only aircraft, an oxygen generator must conform to the provisions of an approval issued under Special Provision 60 and be contained in a packaging prepared and originally offered for transportation by the approval holder.

(3) “B” codes. These provisions apply only to bulk packagings:

Code/Special Provisions

B1 If the material has a flash point at or above 38 °C (100 °F) and below 93 °C (200 °F), then the bulk packaging requirements of § 173.241 of this subchapter are applicable. If the material has a flash point of less than 38 °C (100 °F), then the bulk packaging requirements of § 173.242 of this subchapter are applicable.

B2 MC 300, MC 301, MC 302, MC 303, MC 305, and MC 306 and DOT 406 cargo tanks are not authorized.

B3 MC 300, MC 301, MC 302, MC 303, MC 305, and MC 306 and DOT 406 cargo tanks and DOT 57 portable tanks are not authorized.

B4 MC 300, MC 301, MC 302, MC 303, MC 305, and MC 306 and DOT 406 cargo tanks are not authorized.

B5 Only ammonium nitrate solutions with 35 percent or less water that will remain completely in solution under all conditions of transport at a maximum lading temperature of 116°C (240°F) are authorized for transport in the following bulk packagings: MC 307, MC 312, DOT 407 and DOT 412 cargo tanks with at least 172 kPa (25 psig) design pressure. The packaging shall be designed for a working temperature of at least 121°C (250°F). Only Specifications MC 304, MC 307 or DOT 407 cargo tank motor vehicles are authorized for transportation by vessel.

B6 Packagings shall be made of steel.

B7 Safety relief devices are not authorized on multi-unit tank car tanks. Openings for safety relief devices shall be plugged or blank flanged.

B8 Packagings shall be made of nickel, stainless steel, or steel with nickel, stainless steel, lead or other suitable corrosion resistant metallic lining.

B9 Bottom outlets are not authorized.

B10 MC 300, MC 301, MC 302, MC 303, MC 305, and MC 306 and DOT 406 cargo tanks, and DOT 57 portable tanks are not authorized.

B11 Tank car tanks must have a test pressure of at least 2,068.5 kPa (300 psi). Cargo and portable tanks must have a design pressure of at least 1,207 kPa (175 psig).

B13 A nonspecification cargo tank motor vehicle authorized in § 173.247 of this subchapter must be at least equivalent in design and in construction to a DOT 406 cargo tank or MC 306 cargo tank (if constructed before August 31, 1995), except as follows:

a. Packagings equivalent to MC 306 cargo tanks are excepted from §§ 178.340–10, certification; 178.341–4, vents; and 178.341–5, emergency flow control.

b. Packagings equivalent to DOT 406 cargo tanks are excepted from §§ 178.345–(d)(5), circumferential reinforcements; 178.345–14, marking; 178.345–15, certification; 178.346–10, pressure relief; and 178.346–11, outlets.

c. Packagings are excepted from the design stress limits at elevated temperatures, as described in the ASME Code. However, the design stress limits may not exceed 25 percent of the stress, as specified in the Aluminum Association's "Aluminum Standards and Data" (7th Edition June 1982), for 0 temper at the maximum design temperature of the cargo tank.

B14 Each bulk packaging, except a tank car or a multi-unit-tank car tank, must be insulated with an insulating material so that the overall thermal conductance at 15.5° C (60° F) is no more than 1.5333 kilojoules per hour per square meter per degree Celsius (0.075 Btu per hour per square foot per degree Fahrenheit) temperature differential.

Insulating materials must not promote corrosion to steel when wet. Notwithstanding the requirements in § 171.14(b)(4)(ii) of this subchapter, compliance with this provision is delayed until October 1, 1994, for a bulk packaging containing a material poisonous by inhalation which, when in contact with moisture, becomes highly corrosive to the tank and could cause a degree of corrosion under an insulation blanket that would have an adverse effect on tank integrity.

B15 Packagings must be protected with non-metallic linings impervious to the lading or have a suitable corrosion allowance.

B16 The lading must be completely covered with nitrogen, inert gas or other inert materials.

B18 Open steel hoppers or bins are authorized.

B23 Tanks must be made of steel that is rubber lined or unlined. Unlined tanks must be passivated before being placed in service. If unlined tanks are washed out with water, they must be repassivated prior to return to service. Lading in unlined tanks must be inhibited so that the corrosive effect on steel is not greater than that of hydrofluoric acid of 65 percent concentration.

B25 Packagings must be made from monel or nickel or monel-lined or nickel-lined steel.

B26 Tanks must be insulated. Insulation must be at least 100 mm (3.9 inches) except that the insulation thickness may be reduced to 51 mm (2 inches) over the exterior heater coils. Interior heating coils are not authorized. The packaging may not be loaded with a material outside of the packaging's design temperature range. In addition, the material also must be covered with an inert gas or the container must be filled with water to the tank's capacity. After unloading, the residual material also must be covered with an inert gas or the container must be filled with water to the tank's capacity.

B27 Tanks must have a service pressure of 1,034 kPa (150 psig). Tank car tanks must have a test pressure rating of 1,379 kPa (200 psi). Lading must be blanketed at all times with a dry inert gas at a pressure not to exceed 103 kPa (15 psig).

B28 Packagings must be made of stainless steel.

B30 MC 312, MC 330, MC 331 and DOT 412 cargo tanks and DOT 51 portable tanks must be made of stainless steel, except that steel other than stainless steel may be used in accordance with the provisions of § 173.24(b) of this subchapter. Thickness of stainless steel for tank shell and heads for cargo tanks and portable tanks must be the greater of 7.62 mm (0.300 inch) or the thickness required for a tank with a design pressure at least equal to 1.5 times the

vapor pressure of the lading at 46°C (115° F). In addition, MC 312 and DOT 412 cargo tank motor vehicles must:

- Be ASME Code (U) stamped for 100% radiography of all pressure-retaining welds;
- Have accident damage protection which conforms with §178.345-8 of this subchapter;
- Have a MAWP or design pressure of at least 87 psig; and
- Have a bolted manway cover.

B32 MC 312, MC 330, MC 331, DOT 412 cargo tanks and DOT 51 portable tanks must be made of stainless steel, except that steel other than stainless steel may be used in accordance with the provisions of §173.24b(b) of this subchapter. Thickness of stainless steel for tank shell and heads for cargo tanks and portable tanks must be the greater of 6.35 mm (0.250 inch) or the thickness required for a tank with a design pressure at least equal to 1.3 times the vapor pressure of the lading at 46°C (115° F). In addition, MC 312 and DOT 412 cargo tank motor vehicles must:

- Be ASME Code (U) stamped for 100% radiography of all pressure-retaining welds;
- Have accident damage protection which conforms with §178.345-8 of this subchapter;
- Have a MAWP or design pressure of at least 87 psig; and
- Have a bolted manway cover.

B33 MC 300, MC 301, MC 302, MC 303, MC 305, MC 306, and DOT 406 cargo tanks equipped with a 1 psig normal vent used to transport gasoline must conform to Table 1 of this Special Provision. Based on the volatility class determined by using ASTM D439 and the Reid vapor pressure (RVP) of the particular gasoline, the maximum lading pressure and maximum ambient temperature permitted during the loading of gasoline may not exceed that listed in Table 1.

TABLE 1—MAXIMUM AMBIENT TEMPERATURE—
GASOLINE

ASTM D439 volatility class	Maximum lading and ambient temperature (see note 1)
A (RVP≤9.0 psia)	131° F
B (RVP≤10.0 psia)	124° F
C (RVP≤11.5 psia)	116° F
D (RVP≤13.5 psia)	107° F
E (RVP≤15.0 psia)	100° F

AA Note 1: Based on maximum lading pressure of 1 psig at top of cargo tank.

B35 Tank cars containing hydrogen cyanide may be alternatively marked "Hydrocyanic acid, liquefied" if otherwise conforming to marking requirements in

subpart D of this part. Tank cars marked "HYDROCYANIC ACID" prior to October 1, 1991 do not need to be remarked.

B37 The amount of nitric oxide charged into any tank car tank may not exceed 1,379 kPa (200 psig) at 21° C (70° F).

B42 Tank cars must have a test pressure of 34.47 Bar (500 psig) or greater and conform to Class 105J. Each tank car must have a safety relief device having a start-to-discharge pressure of 10.34 Bar (150 psig). The tank car specification may be marked to indicate a test pressure of 13.79 Bar (200 psig).

B44 All parts of valves and safety relief devices in contact with lading must be of a material which will not cause formation of acetylides.

B45 Safety relief valves must be equipped with stainless steel or platinum frangible discs approved by the AAR Committee on Tank Cars.

B46 The detachable protective housing for the loading and unloading valves of multi-unit tank car tanks must withstand tank test pressure and must be approved by the Associate Administrator for Hazardous Materials Safety.

B47 A safety relief device with a start-to-discharge pressure setting of 310 kPa (45 psig) is permitted.

B48 Portable tanks in sodium metal service may be visually inspected at least once every 5 years instead of being retested hydrostatically. Date of the visual inspection must be stenciled on the tank near the other required markings.

B49 Tanks equipped with interior heater coils are not authorized. Single unit tank car tanks must have a safety relief valve set at no more than 1551 kPa (225 psig).

B50 Each valve outlet of a multi-unit tank car tank must be sealed by a threaded solid plug or a threaded cap with inert luting or gasket material. Valves must be of stainless steel and the caps, plugs, and valve seats must be of a material that will not deteriorate as a result of contact with the lading.

B52 Notwithstanding the provisions of §173.24b of this subchapter, non-reclosing pressure relief devices are authorized on DOT 57 portable tanks.

B53 Except for IBCs, packagings must be made of either aluminum or steel.

B54 Open-top, sift-proof rail cars are also authorized.

B55 Water-tight, sift-proof, closed-top, metal-covered hopper cars, equipped with a venting arrangement (including flame arrestors) approved by the Associate Administrator for Hazardous Materials Safety are also authorized.

B56 Water-tight, sift-proof, closed-top, metal-covered hopper cars are also authorized if the particle size of the hazardous material is not less than 149 microns.

- B57 Class 115A tank car tanks used to transport chloroprene must be equipped with a safety vent of a diameter not less than 305 mm (12 inches) with a maximum rupture disc pressure of 45 psi.
- B59 Water-tight, sift-proof, closed-top, metal-covered hopper cars are also authorized provided that the lading is covered with a nitrogen blanket.
- B60 DOT Specification 106A500X multi-unit tank car tanks that are not equipped with a safety relief device of any type are authorized. For the transportation of phosphene, the outage must be sufficient to prevent tanks from becoming liquid full at 55 °C (130 °F).
- B61 Written procedures covering details of tank car appurtenances, dome fittings, safety devices, and marking, loading, handling, inspection, and testing practices must be approved by the Associate Administrator for Hazardous Materials Safety before any single unit tank car tank is offered for transportation.
- B64 Each single unit tank car tank built after December 31, 1990 must be equipped with a tank head puncture resistance system that conforms to §179.16 of this subchapter.
- B65 Tank cars must have a test pressure of 34.47 Bar (500 psig) or greater and conform to Class 105A. Each tank car must have a pressure relief device having a start-to-discharge pressure of 15.51 Bar (225 psig). The tank car specification may be marked to indicate a test pressure of 20.68 Bar (300 psig).
- B66 Each tank must be equipped with gas tight valve protection caps. Outage must be sufficient to prevent tanks from becoming liquid full at 55°C (130°F). Specification 110A500W tanks must be stainless steel.
- B67 All valves and fittings must be protected by a securely attached cover made of metal not subject to deterioration by the lading, and all valve openings, except safety valve, must be fitted with screw plugs or caps to prevent leakage in the event of valve failure.
- B68 Sodium must be in a molten condition when loaded and allowed to solidify before shipment. Outage must be at least 5 percent at 98°C (208°F). Bulk packagings must have exterior heating coils fusion welded to the tank shell which have been properly stress relieved. The only tank car tanks authorized are Class DOT 105 tank cars having a test pressure of 2,069 kPa (300 psig) or greater.
- B69 Dry sodium cyanide or potassium cyanide may be shipped in sift-proof weather-resistant metal covered hopper cars, covered motor vehicles, portable tanks or non-specification bins. Bins must be approved by the Associate Administrator for Hazardous Materials Safety. Flexible intermediate bulk containers (FIBCs) may also be used under conditions approved by the Associate Administrator for Hazardous Materials Safety.
- B70 If DOT 103ANW tank car tank is used: All cast metal in contact with the lading must have 96.7 percent nickel content; and the lading must be anhydrous and free from any impurities.
- B71 Tank cars must have a test pressure of 20.68 Bar (300 psig) or greater and conform to Class 105, 112, 114 or 120.
- B72 Tank cars must have a test pressure of 34.47 Bar (500 psig) or greater and conform to Class 105J, 106, or 110.
- B74 Tank cars must have a test pressure of 20.68 Bar (300 psig) or greater and conform to Class 105S, 106, 110, 112J, 114J or 120S.
- B76 Tank cars must have a test pressure of 20.68 Bar (300 psig) or greater and conform to Class 105S, 112J, 114J or 120S. Each tank car must have a safety relief device having a start-to-discharge pressure of 10.34 Bar (150 psig). The tank car specification may be marked to indicate a test pressure of 13.79 Bar (200 psig).
- B77 Other packaging are authorized when approved by the Associate Administrator for Hazardous Materials Safety.
- B78 Tank cars must have a test pressure of 4.14 Bar (60 psig) or greater and conform to Class 103, 104, 105, 109, 111, 112, 114 or 120. Heater pipes must be of welded construction designed for a test pressure of 500 pounds per square inch. A 25 mm (1 inch) woven lining of asbestos or other approved material must be placed between the bolster slabbing and the bottom of the tank. If a tank car tank is equipped with a safety vent of the frangible disc type, the frangible disc must be perforated with a 3.2 mm (0.13 inch) diameter hole. If a tank car tank is equipped with a safety relief valve, the tank car tank must also be equipped with a vacuum relief valve.
- B80 Each cargo tank must have a minimum design pressure of 276 kPa (40 psig).
- B81 Venting and pressure relief devices for tank car tanks and cargo tanks must be approved by the Associate Administrator for Hazardous Materials Safety.
- B82 Cargo tanks and portable tanks are not authorized.
- B83 Bottom outlets are prohibited on tank car tanks transporting sulfuric acid in concentrations over 65.25 percent.
- B84 Packagings must be protected with non-metallic linings impervious to the lading or have a suitable corrosion allowance for sulfuric acid or spent sulfuric acid in concentration up to 65.25 percent.
- B85 Cargo tanks must be marked with the name of the lading in accordance with the requirements of §172.302(b).
- B90 Steel tanks conforming or equivalent to ASME specifications which contain solid or semisolid residual motor fuel anti-knock mixture (including rust, scale, or

other contaminants) may be shipped by rail freight or highway. The tank must have been designed and constructed to be capable of withstanding full vacuum. All openings must be closed with gasketed blank flanges or vapor tight threaded closures.

B100 Intermediate bulk containers are not authorized.

B101 Authorized only in metal intermediate bulk containers.

B103 If an intermediate bulk container is used, the package must be transported in a closed freight container or transport vehicle.

B104 Intermediate bulk containers must be provided with a device to allow venting during transport. The inlet to the pressure relief valve must communicate with the vapor space of the packaging and lading during transport.

B105 Authorized only in rigid intermediate bulk containers.

B106 Authorized in intermediate bulk containers that are vapor tight.

B108 Authorized in sift-proof, water-resistant flexible, fiberboard or wooden intermediate bulk containers; packed in a closed transport vehicle.

B109 Not authorized in flexible intermediate bulk containers.

B110 This material also may be packaged in IBCs authorized in §173.242(d) of this subchapter.

B115 Rail cars, highway trailers, roll-on/roll-off bins, or other non-specification bulk packagings are authorized. Packagings must be sift-proof, prevent liquid water from reaching the hazardous material, and be provided with sufficient venting to preclude dangerous accumulation of flammable, corrosive, or toxic gaseous emissions such as methane, hydrogen, and ammonia. The material must be loaded dry.

(4) “H” codes. These provisions apply only to transportation by highway. [Reserved]

(5) “N” codes. These provisions apply only to non-bulk packagings:

Code/Special Provisions

N3 Glass inner packagings are permitted in combination or composite packagings only if the hazardous material is free from hydrofluoric acid.

N4 For combination or composite packagings, glass inner packagings, other than ampoules, are not permitted.

N5 Glass materials of construction are not authorized for any part of a packaging which is normally in contact with the hazardous material.

N6 Battery fluid packaged with electric storage batteries, wet or dry, must con-

form to the packaging provisions of §173.159 (g) or (h) of this subchapter.

N7 The hazard class or division number of the material must be marked on the package in accordance with §172.302 of this subchapter. However, the hazard label corresponding to the hazard class or division may be substituted for the marking.

N8 Nitroglycerin solution in alcohol may be transported under this entry only when the solution is packed in metal cans of not more than 1 L capacity each, overpacked in a wooden box containing not more than 5 L. Metal cans must be completely surrounded with absorbent cushioning material. Wooden boxes must be completely lined with a suitable material impervious to water and nitroglycerin.

N9 If the substance is impregnated with less than 5% oil, it is excepted from the labeling requirements of subpart D of this part and the packaging tests of subpart M of part 178 of this subchapter.

N10 Lighters and their inner packagings, which have been approved by the Associate Administrator for Hazardous Materials Safety (see §173.21(i) of this subchapter), must be packaged in one of the following outer packagings at the Packing Group II level: 4C1 or 4C2 wooden boxes; 4D plywood boxes; 4F reconstituted wood boxes; 4G fiberboard boxes; or 4H1 or 4H2 plastic boxes.

N11 This material is excepted for the specification packaging requirements of this subchapter if the material is packaged in strong, tight non-bulk packaging meeting the requirements of subparts A and B of part 173 of this subchapter.

N12 Plastic packagings are not authorized.

N20 A 5M1 multi-wall paper bag is authorized if transported in a closed transport vehicle.

N25 Steel single packagings are not authorized.

N32 Aluminum materials of construction are not authorized for single packagings.

N33 Aluminum drums are not authorized.

N34 Aluminum construction materials are not authorized for any part of a packaging which is normally in contact with the hazardous material.

N36 Aluminum or aluminum alloy construction materials are permitted only for halogenated hydrocarbons that will not react with aluminum.

N37 This material may be shipped in an integrally-lined fiber drum (1G) which meets the general packaging requirements of subpart B of part 173 of this subchapter, the requirements of part 178 of this subchapter at the packing group assigned for the material and to any other special provisions of column 7 of the §172.101 table.

N40 This material is not authorized in the following packagings:

- a. A combination packaging consisting of a 4G fiberboard box with inner receptacles of glass or earthenware;
- b. A single packaging of a 4C2 sift-proof, natural wood box; or
- c. A composite packaging 6PG2 (glass, porcelain or stoneware receptacles within a fiberboard box).

N41 Metal construction materials are not authorized for any part of a packaging which is normally in contact with the hazardous material.

N42 1A1 drums made of carbon steel with thickness of body and heads of not less than 1.3 mm (0.050 inch) and with a corrosion-resistant phenolic lining are authorized for stabilized benzyl chloride if tested and certified to the Packing Group I performance level at a specific gravity of not less than 1.8.

N43 Metal drums are permitted as single packagings only if constructed of nickel or monel.

N45 Copper cartridges are authorized as inner packagings if the hazardous material is not in dispersion.

N65 Outage must be sufficient to prevent cylinders or spheres from becoming liquid full at 55 °C (130 °F). The vacant space (outage) may be charged with a nonflammable nonliquefied compressed gas if the pressure in the cylinder or sphere at 55 °C (130 °F) does not exceed 125 percent of the marked service pressure.

N71 Combination packagings consisting of inner glass packagings of not over 1.0 L (0.3 gallon) capacity each or inner metal packagings of not over 5.0 L (1 gallon) capacity each, placed in strong outer packagings, are authorized. Packagings are not subject to the requirements of part 178 of this subchapter.

N72 Packagings must be examined by the Bureau of Explosives and approved by the Associate Administrator for Hazardous Materials Safety.

N73 Packagings consisting of outer wooden or fiberboard boxes with inner glass, metal or other strong containers; metal or fiber drums; kegs or barrels; or strong metal cans are authorized and need not conform to the requirements of part 178 of this subchapter.

N74 Packages consisting of tightly closed inner containers of glass, earthenware, metal or polyethylene, capacity not over 0.5 kg (1.1 pounds) securely cushioned and packed in outer wooden barrels or wooden or fiberboard boxes, not over 15 kg (33 pounds) net weight, are authorized and need not conform to the requirements of part 178 of this subchapter.

N75 Packages consisting of tightly closed inner packagings of glass, earthenware or metal, securely cushioned and packed in outer wooden barrels or wooden or fiberboard boxes, capacity not over 2.5 kg (5.5

pounds) net weight, are authorized and need not conform to the requirements of part 178 of this subchapter.

N76 For materials of not more than 25 percent active ingredient by weight, packages consisting of inner metal packagings not greater than 250 ml (8 ounces) capacity each, packed in strong outer packagings together with sufficient absorbent material to completely absorb the liquid contents are authorized and need not conform to the requirements of part 178 of this subchapter.

N77 For materials of not more than two percent active ingredients by weight, packagings need not conform to the requirements of part 178 of this subchapter, if liquid contents are absorbed in an inert material.

N78 Packages consisting of inner glass, earthenware, or polyethylene or other non-fragile plastic bottles or jars not over 0.5 kg (1.1 pounds) capacity each, or metal cans not over five pounds capacity each, packed in outer wooden boxes, barrels or kegs, or fiberboard boxes are authorized and need not conform to the requirements of part 178 of this subchapter. Net weight of contents in fiberboard boxes may not exceed 29 kg (64 pounds). Net weight of contents in wooden boxes, barrels or kegs may not exceed 45 kg (99 pounds).

N79 Packages consisting of tightly closed metal inner packagings not over 0.5 kg (1.1 pounds) capacity each, packed in outer wooden or fiberboard boxes, or wooden barrels, are authorized and need not conform to the requirements of part 178 of this subchapter. Net weight of contents may not exceed 15 kg (33 pounds).

N80 Packages consisting of one inner metal can, not over 2.5 kg (5.5 pounds) capacity, packed in an outer wooden or fiberboard box, or a wooden barrel, are authorized and need not conform to the requirements of part 178 of this subchapter.

N82 See §173.306 of this subchapter for classification criteria for flammable aerosols.

(6) “*R*” codes. These provisions apply only to transportation by rail. [Reserved]

(7) “*T*” codes. These provisions apply only to transportation in IM portable tanks. They are divided into two groupings, one of which appears as IM Tank Configurations in paragraph (c)(7)(i) of this section, and the second of which imposes specific requirements and appears in paragraph (c)(7)(ii) of this section.

(i) *IM Tank Configurations*. Column 1 lists the code for the special provisions as specified in column 7 of the §172.101 table. Column 2 specifies the IM tank

type, either IM 101 (§§ 178.270 and 178.271 of this subchapter) or IM 102 (§§ 178.270 and 178.272 of this subchapter). Column 3 specifies the minimum test pressure, in bars (1 bar = 14.5 psig), at which the periodic hydrostatic testing required by § 173.32b of this subchapter must be

conducted. Column 4 specifies either the section referenced for requirements for bottom openings or “Prohibited”, which means bottom openings are prohibited. Column 5 specifies the section reference for requirements applicable to pressure relief devices.

IM TANK CONFIGURATIONS

Code	IM tank type	Minimum test Pressure (bars)	Bottom outlets	Pressure relief devices
(1)	(2)	(3)	(4)	(5)
T1	102	1.5	§ 173.32c(g)(1)	§ 178.270–11(a)(1),(2)
T2	102	1.5	§ 173.32c(g)(2)	§ 178.270–11(a)(1),(2)
T7	101	2.65	§ 173.32c(g)(1)	§ 178.270–11(a)(1),(2)
T8	101	2.65	§ 173.32c(g)(2)	§ 178.270–11(a)(1),(2)
T9	101	2.65	Prohibited	§ 178.270–11(a)(1),(2)
T11	101	2.65	§ 173.32c(g)(2)	§ 178.270–11(a)(3)
T12	101	2.65	Prohibited	§ 178.270–11(a)(3)
T13	101	4	§ 173.32c(g)(1)	§ 178.270–11(a)(1),(2)
T14	101	4	§ 173.32c(g)(2)	§ 178.270–11(a)(1),(2)
T15	101	4	Prohibited	§ 178.270–11(a)(1),(2)
T16	101	4	§ 173.32c(g)(1)	§ 178.270–11(a)(3)
T17	101	4	§ 173.32c(g)(2)	§ 178.270–11(a)(3)
T18	101	4	Prohibited	§ 178.270–11(a)(3)
T20	101	6	§ 173.32c(g)(2)	§ 178.270–11(a)(1),(2)
T21	101	6	Prohibited	§ 178.270–11(a)(1),(2)
T22	101	6	§ 173.32c(g)(1)	§ 178.270–11(a)(1),(2)
T23	101	6	§ 173.32c(g)(2)	§ 178.270–11(a)(3)
T24	101	6	Prohibited	§ 178.270–11(a)(3)
T28	101	10	Prohibited	§ 178.270–11(a)(1),(2)
T39	101	10	Prohibited	§ 178.270–11(a)(3)
T43	101	9	Prohibited	§ 178.270–11(a)(3)

(ii) *IM Tank special provisions.*

Code/Special Provisions

- T25 This hazardous material is not permitted for transport in IM portable tanks.
- T26 Each tank must have a minimum shell thickness of 6.35 mm (0.250 inch) mild steel.
- T27 Each tank must have a minimum shell thickness of 8.0 mm (0.315 inch) mild steel.
- T28 See entry for T28 in the IM Tank Configuration Table in paragraph (c)(7)(i) of this section.
- T29 The lading must be completely covered with nitrogen, inert gas or other inert materials.
- T30 IM 102 portable tanks without bottom openings or with bottom openings conforming to § 173.32c(g)(1) of this subchapter are authorized for a hazardous material with a flash point of 0 °C (32 °F) or greater and a vapor pressure not greater than 65.5 kPa (9.5 psia) at 65.6 °C (150 °F).
- T31 IM 102 portable tanks without bottom openings or with bottom openings conforming to § 173.32c(g)(2) of this subchapter are authorized for a hazardous material with a flash point of 0 °C (32 °F) or greater and a vapor pressure not greater than 65 kPa (9.4 psia) at 65.6 °C (150 °F).

- T32 Each tank must have a minimum shell thickness of 10.0 mm (0.394 inch) mild steel with at least 5.0 mm (0.197 inch) lead lining.
- T33 Dry phosphorus is not permitted. For transport in a molten state, the tank must be insulated in accordance with Note T38. Air must be eliminated from the interior of the tank. The tank may be heated, however, interior heating coils are prohibited.
- T34 The IM Tank authorization is limited to aqueous solutions containing not more than 40% dimethylamine.
- T35 Each tank must be equipped with reclosing (spring loaded) pressure relief valves set to discharge at pressures determined according to the pressure characteristics of the organic peroxide lading.
- T36 Each tank must be equipped with pressure relief devices with sufficient venting capacity to prevent the tank from bursting.
- T37 IM portable tanks are only authorized for the shipment of hydrogen peroxide solutions in water containing 72 percent or less hydrogen peroxide by weight. Pressure relief devices shall be designed to prevent the entry of foreign matter, the leakage of liquid and the development of any dangerous excess pressure. In addition, the

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tank shall be designed so that internal surfaces may be effectively cleaned and passivated. Each tank must be equipped with pressure relief devices conforming to the following requirements:

Concentration of hydrogen peroxide solution	Total venting capacity in standard cubic feet per hour (S.C.F.H.) per pound of hydrogen peroxide solution
52 percent or less	11
Over 52 percent but not greater than 60 percent	22
Over 60 percent but not greater than 72 percent	32

T38 Each tank must be insulated with an insulating material so that the overall thermal conductance at 15.5° C (60° F) is no more than 1.5333 kilojoules per hour per square meter per degree Celsius (0.075 Btu per hour per square foot per degree Fahrenheit) temperature differential. Insulating materials must not promote corrosion to steel when wet. Notwithstanding the requirements in §171.14(b)(4)(ii) of this subchapter, compliance with this provision is delayed until October 1, 1994, for a bulk packaging containing a material poisonous by inhalation which, when in contact with moisture, becomes highly corrosive and could cause corrosion under an insulation blanket.

T39 See entry for T39 in the IM Tank Configuration Table in paragraph (c)(7)(i) of this section.

T40 Each tank must have a minimum shell thickness of 10.0 mm (0.39 inch) mild steel.

T41 Each tank must have a minimum shell thickness of 12.0 mm (0.47 inch) mild steel.

T42 Transport in IM portable tanks is permitted only under conditions approved by the Associate Administrator for Hazardous Materials Safety.

T43 See entry for T43 in the IM Tank Configuration Table in paragraph (c)(7)(i) of this section.

T44 DOT Specification IM 101 portable tanks shall be made of stainless steel except that steel other than stainless steel may be used in accordance with the provisions of §173.24b(b) of this subchapter. Thickness of stainless steel for tank shell and heads must be the greater of 7.62 mm (0.300 inch) or the thickness required for a tank with a design pressure at least equal to 1.5 times the vapor pressure of the lading at 46 °C (115 °F).

T45 DOT Specification IM 101 portable tanks shall be made of stainless steel except that steel other than stainless steel may be used in accordance with the provisions of §173.24b(b) of this subchapter.

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Thickness of stainless steel for tank shell and heads must be the greater of 6.35 mm (0.250 inch) or the thickness required for a tank with a design pressure at least equal to 1.3 times the vapor pressure of the lading at 46 °C (115 °F).

T46 IM portable tanks in sodium metal service are not required to be hydrostatically retested.

T47 Temperature must be maintained between 18°C (64.4°F) and 40°C (104°F) when carried in tanks. Tanks containing solidified methacrylic acid may not be reheated during transport.

(8) “W” codes. These provisions apply only to transportation by water:

Code/Special Provisions

W41 When offered for transportation by water, this material must be packaged in bales and be securely and tightly bound with rope, wire or similar means.

[Amdt. 172–123, 55 FR 52582, Dec. 21, 1990]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting §172.102, see the List of CFR Sections Affected in the Finding Aids section of this volume.

Subpart C—Shipping Papers

§ 172.200 Applicability.

(a) *Description of hazardous materials required.* Except as otherwise provided in this subpart, each person who offers a hazardous material for transportation shall describe the hazardous material on the shipping paper in the manner required by this subpart.

(b) This subpart does not apply to any material, other than a hazardous substance, hazardous waste or marine pollutant, that is—

(1) Identified by the letter “A” in Column 1 of the §172.101 Table, except when the material is offered or intended for transportation by air; or

(2) Identified by the letter “W” in Column 1 of the §172.101 Table, except when the material is offered or intended for transportation by water; or

(3) An ORM–D, except when the material is offered or intended for transportation by air.

[Amdt. 172–29A, 41 FR 40677, Sept. 20, 1976, as amended by Amdt. 172–58, 45 FR 34697, May 22, 1980; Amdt. 172–74, 47 FR 43065, Sept. 30, 1982; Amdt. 172–112, 53 FR 17160, May 13, 1988; Amdt. 172–127, 57 FR 52938, Nov. 5, 1992]